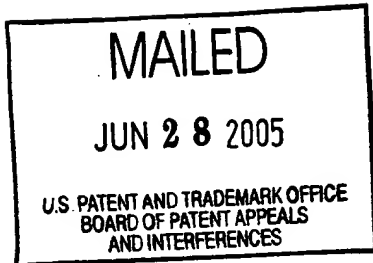


The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.



UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DENNIS W. CRABTREE, DUANE J. BRINKERHOFF
and DWIGHT P. WILLIAMS

Appeal No. 2005-1187
Application No. 09/593,360

ON BRIEF

Before FRANKFORT, MCQUADE and BAHR, Administrative Patent Judges.
MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Dennis W. Crabtree et al. originally took this appeal from the final rejection of claims 12 through 18, 20 and 39 through 43. As the appellants have since stated an intention to cancel claim 40 "as soon as such is expeditious and appropriate" (main brief, page 1), the appeal as to claim 40 is hereby dismissed, leaving for review the standing rejections of claims 12 through 18, 20, 39 and 41 through 43. Claims 1 through 11, 19, 21 through 38 and 44, the only other claims pending in the application, stand withdrawn from consideration.

THE INVENTION

The subject matter on appeal relates to "fire fighting and fire preventing nozzles" (specification, page 1). Representative claim 12 reads as follows:

12. A method for proportioning a fire fighting chemical into variably flowing fire fighting fluid, comprising:

adjusting a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies;

varying a fire fighting foam concentrate orifice in concert with the adjustment of the fire fighting fluid orifice; and

supplying fire fighting foam concentrate through the concentrate orifice into the fire fighting fluid proximate a pressure drop such that a ratio of the foam concentrate proportioned into the fire fighting fluid flowing through the conduit, to the fluid, remains approximately constant.

THE REJECTIONS

Claim 16 stands rejected under 35 U.S.C. § 112, first paragraph, as being based on a specification which is non-enabling with respect to the subject matter claimed.

Claims 12 through 18, 39, 41 and 43 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,224,956 to Klein.

Claims 20 and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Klein.

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Attention is directed to the main and reply briefs (filed June 15, 2004 and February 15, 2005) and the answer (mailed December 16, 2004) for the respective positions of the appellants and the examiner regarding the merits of these rejections.

DISCUSSION

I. The 35 U.S.C. § 112, first paragraph, rejection of claim 16

The dispositive issue with respect to the enablement requirement of 35 U.S.C. § 112, first paragraph, is whether the application disclosure, considering the level of ordinary skill in the art as of the date of the application, would have enabled a person of such skill to make and use the claimed invention without undue experimentation. In re Strahilevitz, 668 F.2d 1229, 1232, 212 USPQ 561, 563-64 (CCPA 1982). In calling into question the enablement of a disclosure, the examiner has the initial burden of advancing acceptable reasoning inconsistent with enablement. Id.

Claim 16 depends from independent 14 which recites a method comprising, inter alia, the step of "varying a fire fighting fluid orifice in a conduit to maintain a preselected pressure drop in the conduit." Claim 16 further defines this step as including "setting a pilot valve to maintain a fixed pressure drop across the orifice from among a range of preselectable fixed

pressure drops." The examiner considers the appellants' disclosure to be non-enabling with respect to this subject matter because

[t]he specification does not appear to teach a "fixed pressure drop." Even if the pilot valve produces a fixed pressure drop which is dependent on the fluid flow, no "range of preselected fixed pressure drops" is disclosed in the specification. If the "range of preselected fixed pressure drops" can be any value, then the recitation "fixed pressure drop" is not "fixed". If the recitation "fixed" is a preset value, the specification does not disclose a preset value [answer, page 3].

Although the portions of the specification relied on by the appellants in arguing this rejection do not provide literal support for the terminology at issue in claim 16, the specification as a whole clearly indicates that the "fixed pressure drop" is a predetermined, pre-selected or targeted pressure drop (see, for example, pages 2 through 5, 11, 22 and 27), and that a spring component of the pilot valve is used to effectively set this predetermined, pre-selected or targeted pressure drop (see, for example, pages 25 through 27). The specification also describes how a spring tension adjustment screw 44 can be used to vary the bias of a pilot valve spring 48 (see, for example, page 15). Against this backdrop, the examiner has failed to cogently explain, and it is not apparent, why the appellants' disclosure would not have enabled a person of

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ordinary skill in the art to make and use, without undue experimentation, a method comprising the step of setting a pilot valve to maintain a fixed pressure drop across an orifice from among a range of preselectable fixed pressure drops as recited in claim 16.

Accordingly, we shall not sustain the standing 35 U.S.C. § 112, first paragraph, rejection of claim 16.

II. The 35 U.S.C. § 102(b) rejection of claims 12 through 18, 39, 41 and 43 as being anticipated by Klein

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic & Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Klein discloses a valve which can be used in a fire fighting environment to mix a plurality of fluids, e.g., a fire retardant and water, in one of several predetermined proportions. For purposes of the rejection, the examiner focuses on the valve illustrated in Figures 1 through 9. This valve 10 includes a

cylindrical valve body 12 having an inlet end 14 defining an inlet port 18 for a primary fluid (water) and an outlet end 16 defining an outlet port 20, an annular valve chamber 22 extending between the inlet and outlet ports, a cylindrical piston slide support 24 axially disposed within the chamber, a pair of secondary fluid (e.g., fire retardant) inlet tubes 26 opening into opposite sides of the slide support at ports 28, a slidable piston 32 comprising a tubular stem 34 movable within the slide support, a piston head 36, a helical spring for lightly biasing the piston head into sealing contact with the inlet port 18, a pair of trapezoidal apertures 54 in the piston stem which are movable into alignment with the secondary fluid ports as the valve opens, and an adjustable pin and slot means 60, 62 and 64 for setting the extent of displacement of the piston and hence the extent of registry of the valve stem apertures with the secondary fluid ports. Klein teaches (see column 7, lines 8 through 17) that the valve body is large enough to accommodate full pump flow in any of the selectable piston displacement positions and that the piston return spring is sufficiently weak so that with any amount of pump flow the piston will at all times remain fixed in its preselected displacement position. In use,

when the piston 32 is shifted . . . downstream against the weak biasing force of spring 38 by a pressure differential across the valve, the piston head 36

becomes unseated from primary inlet port 18, and the enlarged diameter of the valve chamber 22 allows the primary fluid to flow outwardly around the piston head 36 and thence downstream through the valve chamber 22 past the secondary fluid inlet tubes 26 and out of the outlet end 16 of valve body 12 through an annulus defined between valve body outlet port 20 and the downstream end of piston stem 34. The outlet flow of primary fluid through this annulus creates a venturi action which draws the secondary fluid from the secondary fluid inlet tubes 26 through ports 28 and apertures 54 and thence out through the open downstream end of tubular stem 34 where the secondary fluid is introduced into and mixed with the primary fluid.

When the fluid pressure differential is relieved from across the valve the spring 38 will automatically return piston 32 to the closed position of the valve as shown in FIGS. 5 and 7 in which the secondary fluid ports 28 are closed off by tubular stem 34, and in which the piston head 36 is seated in body inlet port 18 to provide a check valve function against reverse flow of fluid through the valve 10 [column 5, lines 41 through 66].

In applying Klein against the appealed claims, all of which recite methods, the examiner states that "[t]he rejections are based solely on what appellant describes as Stage II in the operation of Klein" (answer, page 8), i.e., "the brief and transitory period of time at the beginning or end of an operation, when piston 32 is moved from its closed position to its open position, or vice-versa" (main brief, page 6).

According to the examiner,

[n]o matter how brief the time period for valve 32 of Klein to open, the orifice 18, piston head 36, spring 38, and trapezoid shaped orifice 54 function to automatically control the pressure drop across piston head 36 and to automatically proportion the chemical

through orifice 54 into the fluid flowing out of orifice 20 [answer, pages 8 and 9].

This position is not well taken. Klein does not contain any meaningful discussion of the flow characteristics of the primary and secondary fluids coursing through valve 10 during the short transitory periods when the piston 32 is moving between its closed and opened positions. Simply put, the examiner's implicit determination that the Klein valve acts during these transitory periods to adjust a fire fighting fluid orifice in a fire fighting fluid conduit to maintain a predetermined pressure drop across the orifice as fire fighting fluid flow rate through the conduit varies as recited in independent claim 12, to vary a fire fighting fluid orifice in a conduit to maintain a preselected pressure drop in the conduit as recited in independent claim 14, and to vary the obstruction by a pilot valve to maintain a fixed pressure drop in a fire fighting fluid conduit as recited in claim 39 stems from an unduly speculative assessment of the fair teachings of Klein and an unreasonable interpretation of the claim limitations in question.

Consequently, we shall not sustain the standing 35 U.S.C. § 102(b) rejection of independent claims 12, 14 and 39, and dependent claims 13, 15 through 18, 41 and 43 as being anticipated by Klein.

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III. The 35 U.S.C. § 103(a) rejection of claims 20 and 42 as
being unpatentable over Klein

For the reasons expressed above, Klein does not teach, and would not have suggested, a method meeting the step of automatically adjusting a fire fighting nozzle to control discharge pressure as recited in independent claim 20 or the step of automatically adjusting an obstruction in a fire fighting fluid conduit to maintain a preselected pressure drop as recited in independent claim 42.

Hence, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 20 and 42 as being unpatentable over Klein.


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SUMMARY

The decision of the examiner to reject claims 12 through 18, 20, 39 and 41 through 43 is reversed.

REVERSED

Charles E. Frankfort
CHARLES E. FRANKFORT
Administrative Patent Judge


JOHN P. MCQUADE
Administrative Patent Judge


JENNIFER D. BAHR
Administrative Patent Judge

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SUE Z. SHAPER, P.C
1800 WEST LOOP SOUTH
SUITE 1450
HOUSTON, TX 77027